

MXSYS04E

Ethernet System Controller



USER MANUAL

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CET APPAREIL NUMÉRIQUE DE LA CLASSE A EST CONFORME À LA NORME NMB-003 DU CANADA.

DECLARATION OF CONFORMITY

To The European Community Council Directive 89/336/EEC

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DATE OF ISSUE: May 23, 2002

TYPE OF EQUIPMENT: CCTV and Security Surveillance Equipment

MODEL NUMBER: Alarm Interface Unit
AIU-100 - may be followed by any number of alphanumeric characters.
Auxiliary Interface Units*
AIF-100/CO
Central Control Unit
CCU-100 - may be followed by any number of alphanumeric characters.
CCU-150 - may be followed by any number of alphanumeric characters.
CCU-200 - may be followed by any number of alphanumeric characters.
Joystick Multiplexer
MUX-100 - may be followed by any number of alphanumeric characters
MUX-05 - may be followed by any number of alphanumeric characters
Joystick Controller*
JPD-100, JPD-101, JPD-200 - may be followed by any number of alphanumeric characters.
KEGS5000
Small System Interface*
MXSYS04E
Video Matrix*
SSI-100 - may be followed by any number of alphanumeric characters.
Control Output Expander*
COE-08, COE-16 - may be followed by any number of alphanumeric characters
Control Receiver
CRX-610/BX, CRX-801AX, CRX-801BX
Control Transmitter*
UCT-10 - may be followed by any number of alphanumeric characters.
UltraKey*
KEGSA - may be followed by any number of alphanumeric characters.

*Standard EN60065 does not apply.

STANDARDS TO WHICH CONFORMITY IS DECLARED:

EN50081-1 Emissions Standard, and EN50082-1 Immunity Standard.

EN55022 Radiated, Class A, EN55022 Conducted, Class A, IEC-1000-4-2, ESD, IEC-1000-4-3, RF Fields, IEC-1000-4-4, Fast Transients/Burst.

EN60065 Safety Requirements for Mains Operated Electronic and Related Apparatus for Household and Similar General Use

Ultrak[®], Inc. hereby declares that the models specified above conform to the directive and standard as specified.

Donald L. Stephenson
Compliance Engineer
517775-3

Rev. R

October 2, 2001

IMPORTANT SAFEGUARDS

1. **READ AND FOLLOW INSTRUCTIONS** – All of the safety and operating instructions should be read before the appliance is operated and followed during installation and operation..
2. **RETAIN INSTRUCTIONS** – The safety and operating instructions should be retained for future reference.
3. **HEED WARNINGS** – All warnings on the product and in the operating instructions should be adhered to.
4. **CLEANING** – I Unplug the unit from the outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning. See cleaning procedures under Maintenance.
5. **OBJECT AND LIQUID ENTRY** – Never push objects of any kind into this equipment as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock. Never spill liquid of any kind on the product.
6. **ACCESSORIES** – Do not place this unit on an unstable stand, tripod, bracket, or mount. The unit may fall, causing serious injury to a person and serious damage to the unit. Use only with a stand, tripod, bracket, or mount recommended by the manufacturer, or sold with the product. Any mounting of the unit should follow the manufacturer's instructions, and should use a mounting accessory recommended by the manufacturer.
7. **WATER AND MOISTURE** – Do not use this product near water.
8. **POWER SOURCES** – This unit should be operated only from the type of power source indicated on the marking label.
9. **GROUNDING OR POLARIZATION** – This unit must be connected to a true Earth ground. This product is equipped with a 3-wire grounding type plug; a plug having a third (grounding) pin. This plug will only fit into a grounding-type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the grounding-type plug.
10. **OVERLOADING** – Do not overload outlets and extension cords as this can result in a risk of fire or electric shock.
11. **POWER CORD PROTECTION** – Power supply cords should be routed so they will not be walked on or pinched by items placed on or against them. Pay particular attention to the cord at the electrical outlet and the point where the plug connects to the product.
12. **SERVICING** – Do not attempt to service this unit yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.
Caution: Grounded wrist straps must be worn and proper ESD safety precautions observed when handling the electrostatic-sensitive printed circuit boards.
13. **DAMAGE REQUIRING SERVICE** – Remove power to the unit and refer servicing to qualified service personnel under the following conditions:
 - a. If liquid has been spilled, or objects have fallen into the unit.
 - b. If the unit does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the unit to its normal operation.
 - c. If the unit has been dropped or the enclosure has been damaged.
 - d. When the unit exhibits a distinct change in performance - this indicates a need for service.
14. **REPLACEMENT PARTS** – When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock or other hazards.

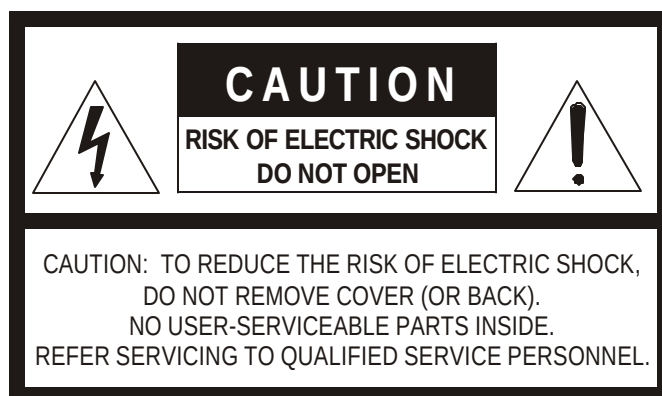
IMPORTANT SAFEGUARDS, CONTINUED

15. **SAFETY CHECK** - Upon completion of any service or repairs to this unit, ask the service technician to perform safety checks to determine that the unit is in proper operating condition.
16. **LIGHTNING** – Surge suppression must be provided for this unit to prevent lightning induced electrical surges. The warranty is void if damage is done to the unit due to electrical surges. For added protection of this unit during a lightning storm, or when it is left unattended and unused for long periods of time, remove power to the unit. This will prevent damage to the unit due to lightning and power-line surges.

WARNING

- TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE.
- THIS IS AN ELECTROSTATIC-SENSITIVE DEVICE. USE PROPER CMOS/MOSFET HANDLING PRECAUTIONS TO AVOID ELECTROSTATIC DISCHARGE.
- TO PREVENT ELECTRIC SHOCK, DO NOT REMOVE THE GROUNDING PIN (THIRD PIN) ON THE POWER PLUG ON THE POWER SUPPLY.

CAUTION



EXPLANATION OF GRAPHICAL SYMBOLS



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instruction in the literature accompanying the product.

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SECTION 1: INTRODUCTION

1.1 PRODUCT DESCRIPTION

The MXSYS04E is a system controller designed to take advantage of the flexibility of the Maxpro range of hardware as well as integrate Ultraks' latest range of digital products.

The controller supports the Maxpro MX-32128 HD series subracks as well as the MX-1132 subracks with any combination of Maxpro cards.

The MXSYS04E has 4 serial ports which can be software configured as RS-232, RS-485 or RS-422. The protocol used on each port is also software defined.

The control software is powerful and flexible and includes PTZ control, Multiple keyboards with priority levels, flexible alarm handling, sequences, timed events and a powerful, yet simple, macro language

A 10 base T Ethernet port provides TCP/IP connection with the KEGS002's (Ultrakeys). The Ethernet also allows the matrix to control Ultrak's range of digital products providing a true hybrid analog/digital solution.

Firmware is uploaded from a PC making service and software upgrades simple.

Configuration data can be uploaded or downloaded from the unit.

The MXSYS04E is powered by an external, universal power supply.

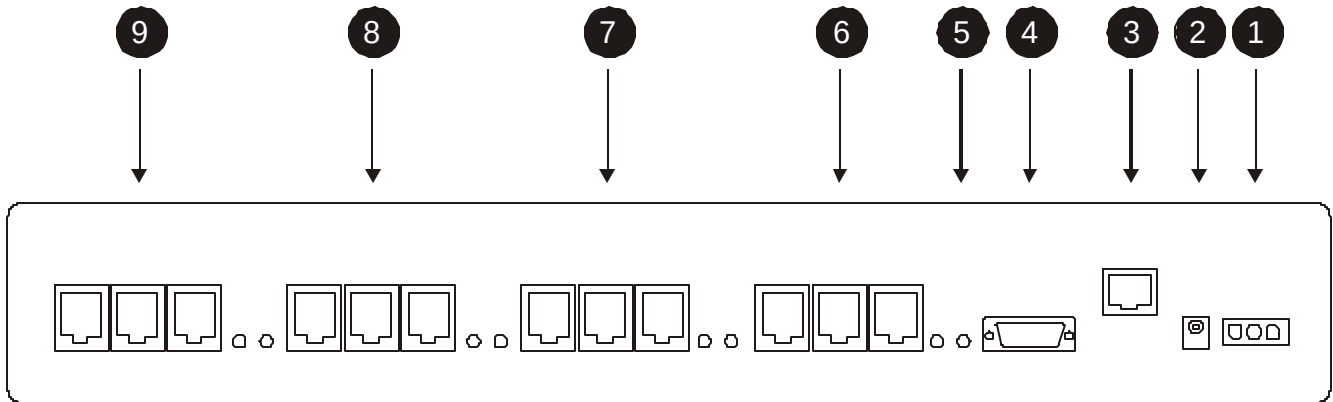
The MXSYS04E can be placed on a desk or 19" rack mounted using the brackets provided.

1.2 FEATURES

The MXSYS04E controller includes the following features:

- Full control of a fully loaded MX-32128
- 32 Titled Composite Video Outputs – MX-32128
- 32 Potential Free Alarm Inputs - MX-32128
- Control of up to 128 Ultrak domes - MX-32128
- 8 Open Collector Alarm Outputs – MX-32128
- Support for 8 keyboards (KEGS5000, KEGS5300 and KEGS002)
- User programmable macros
- Separate logins for Operators and Master Users (supervisors)
- Sequences and Tours
- Support for Ultrak's digital range of products through the Ethernet connection

SECTION 2: CONNECTIONS

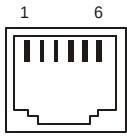


2.1 CONNECTIONS

Figure 1: .Connections of the MXSYS04E

ID	Usage	Description
1	Power	Power Connector – Direct from MXPS9.
2	Power	Power Connector – From 9-12VDC Power Supply
3	Ethernet Port	10 Base T Ethernet Port
4	Down Load Port	RS-232 Connection to PC for Firmware Downloads
5	Reset	System Reset
6	Port 1	RS-232 \ RS-485 Serial Port 1
7	Port 2	RS-232 \ RS-485 Serial Port 2
8	Port 3	RS-232 \ RS-485 Serial Port 3
9	Port 4	RS-232 \ RS-485 Serial Port 4

Figure 2: MXSYS04E CONNECTIONS



Looking into the Socket

MXSYS04E PORT CONNECTIONS	RS-323	RS-485	RS-422
SUBRACK CONNECTOR PORT 1,2,3,4	PIN 3, TX PIN 4, GND PIN 5, RX	PIN 3, D- PIN 4, GND PIN 5, D+	PIN 1, RX+ PIN 2, RX - PIN 3, TX- PIN 4, GND PIN 5, TX+
KEGS5300 CONNECTOR PORT 1,2,3,4	PIN 1, +9V PIN 3, TX PIN 4, GND PIN 5, RX PIN 6, GND	PIN 1, +9V PIN 3, D- PIN 4, GND PIN 5, D+ PIN 6, GND	PIN 1, +9V PIN 3, TX- PIN 4, GND PIN 5, TX+ PIN 6, GND
KEGS5000 CONNECTOR PORT 1,2,3,4	PIN 2, RX PIN 3, TX PIN 4, +9V PIN 5, GND	PIN 2, D+ PIN 3, D- PIN 4, +9V PIN 5, GND	PIN 2, TX+ PIN 3, TX- PIN 4, +9V PIN 5, GND

SECTION 3: INSTALLATION AND SETUP

3.1 INSTALLATION DIAGRAMS

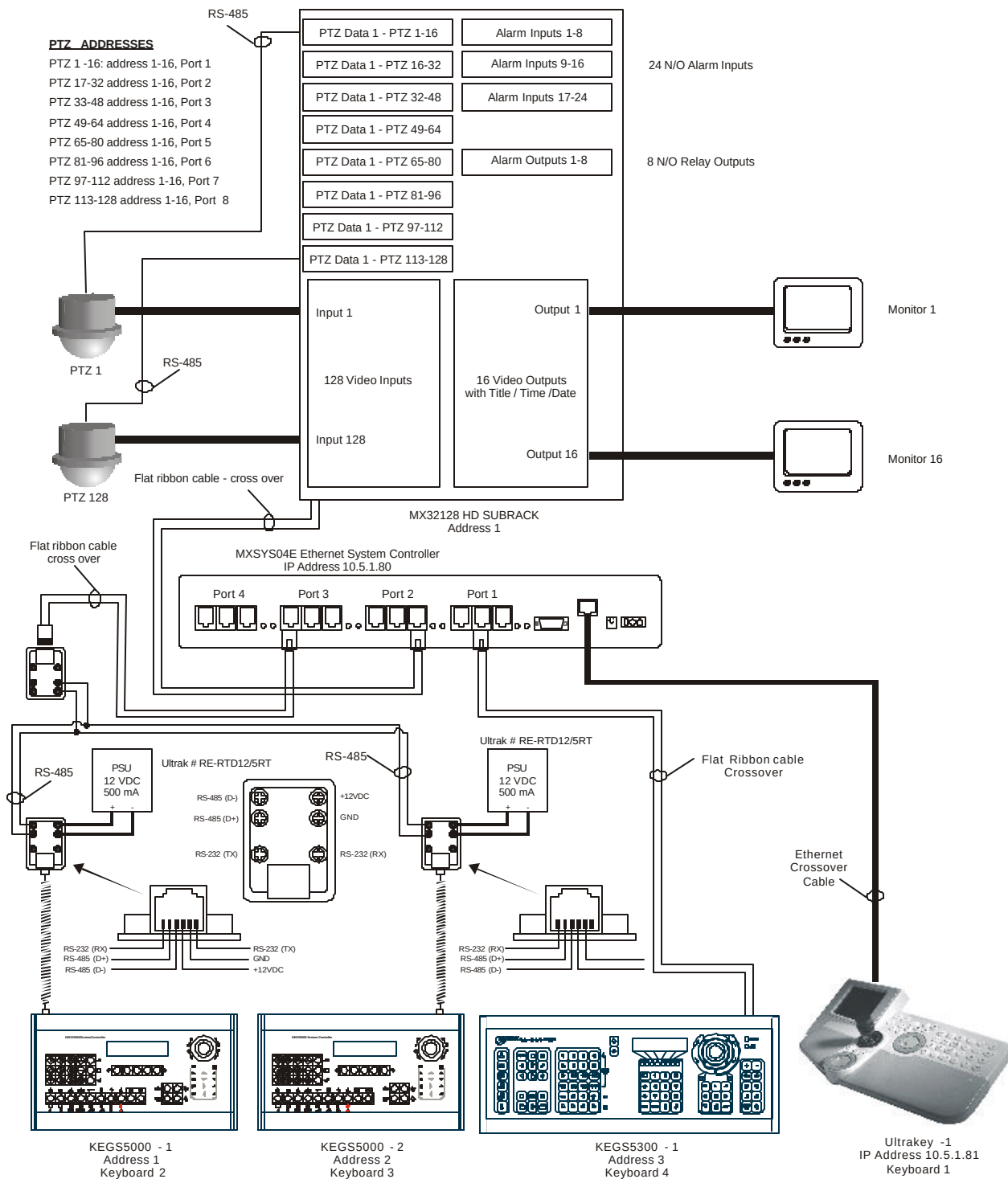


Figure 3: Default System Configuration – MX-32128

3.1 INSTALLATION DIAGRAMS, CONTINUED

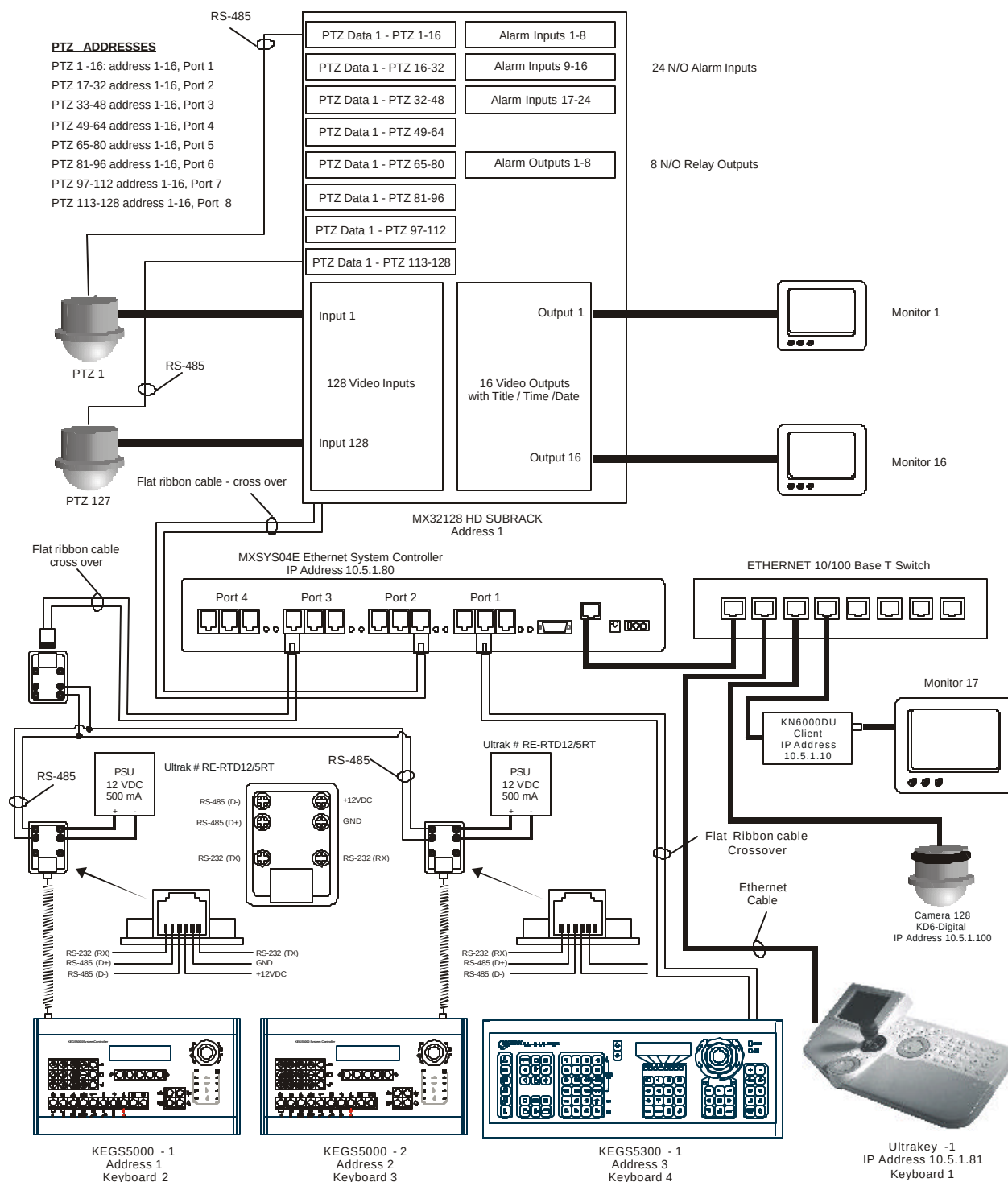


Figure 4: Default System Configuration – MX-32128 Hybrid

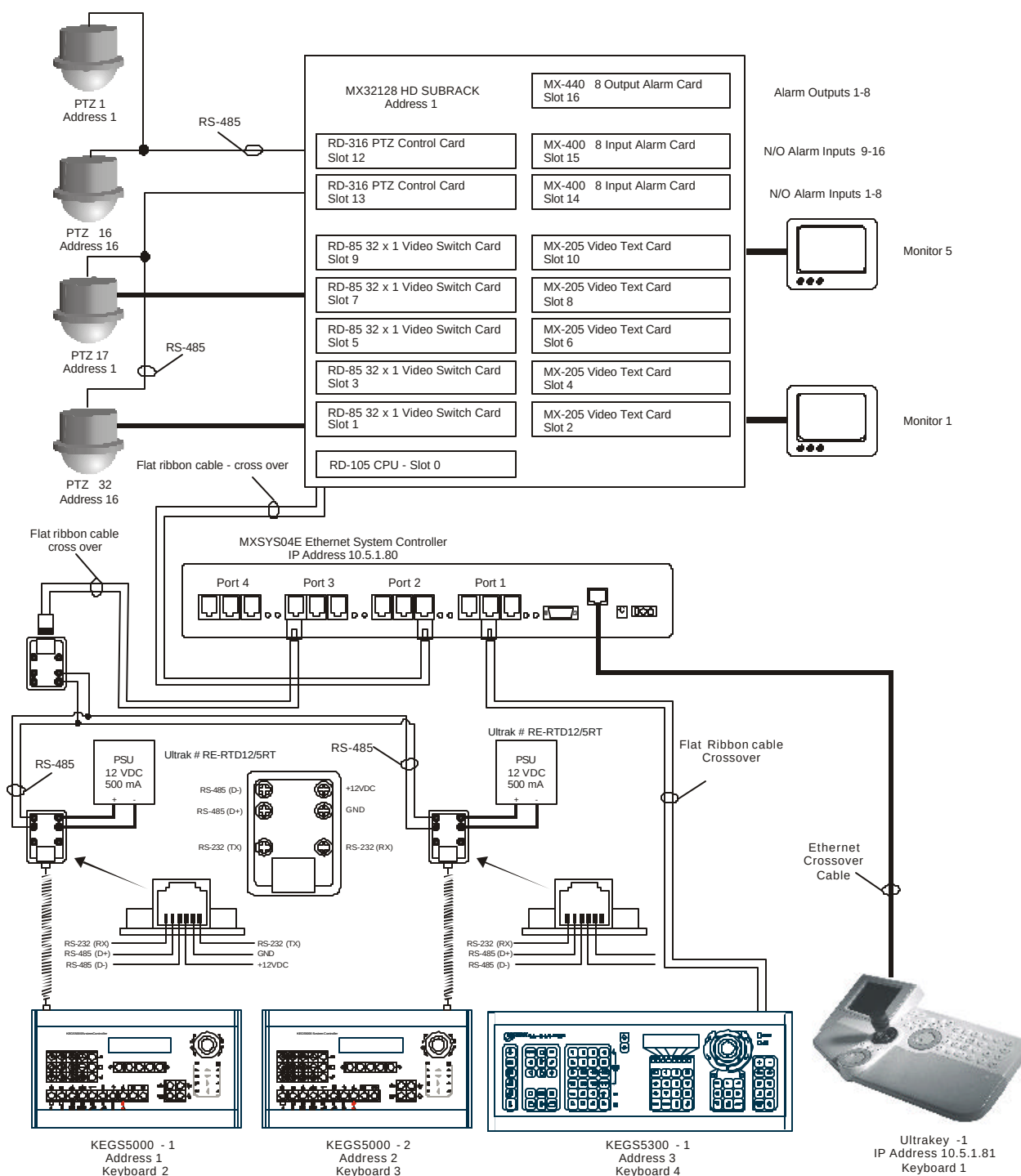


Figure 5: Default System Configuration – MX-1132

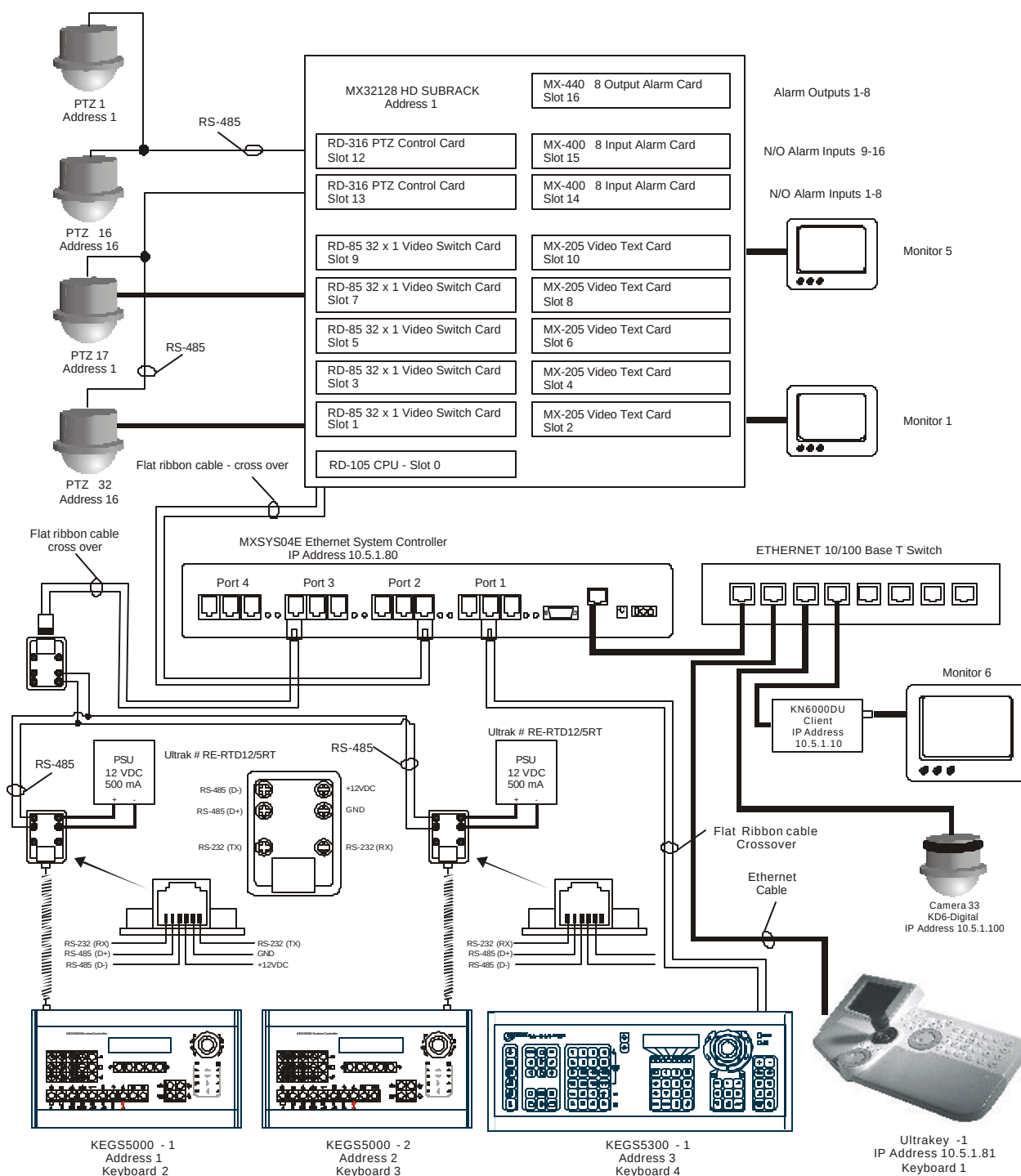


Figure 6: Default System Configuration – MX-1132 Hybrid

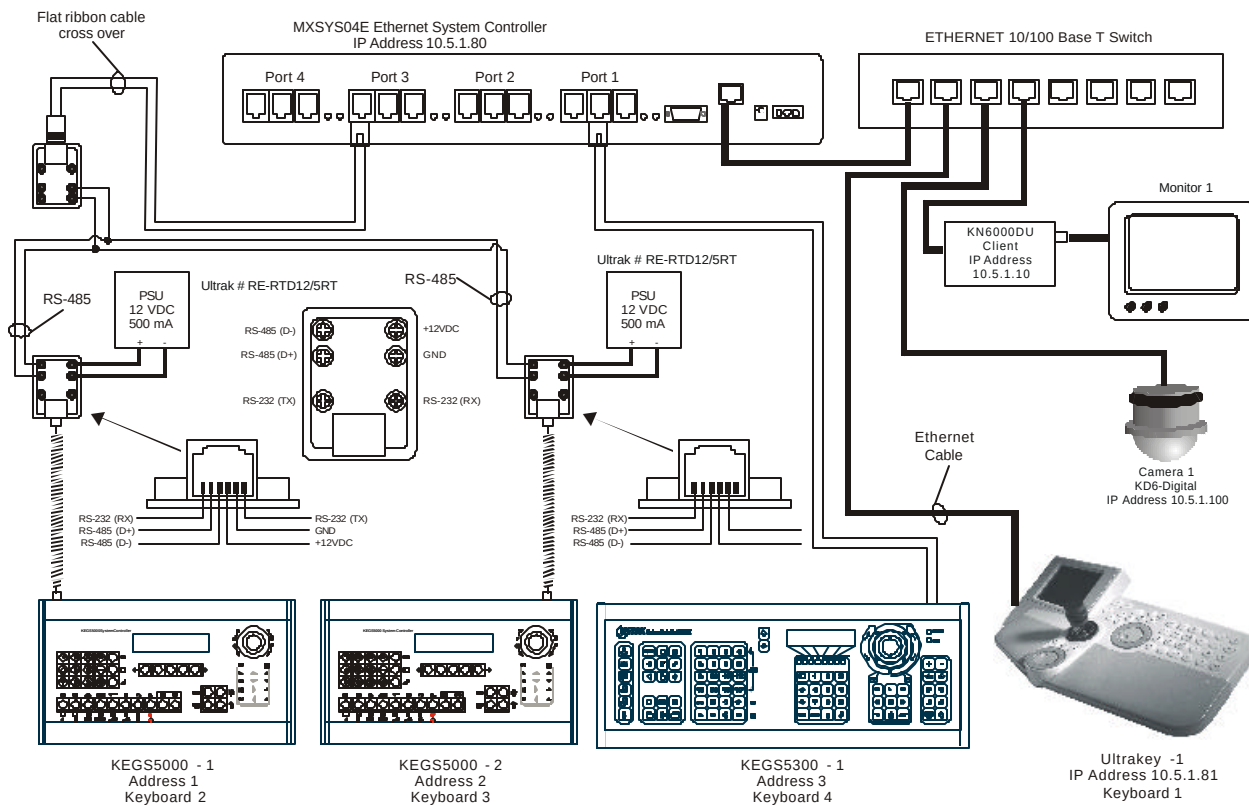


Figure 7: Default System Configuration – Digital 1

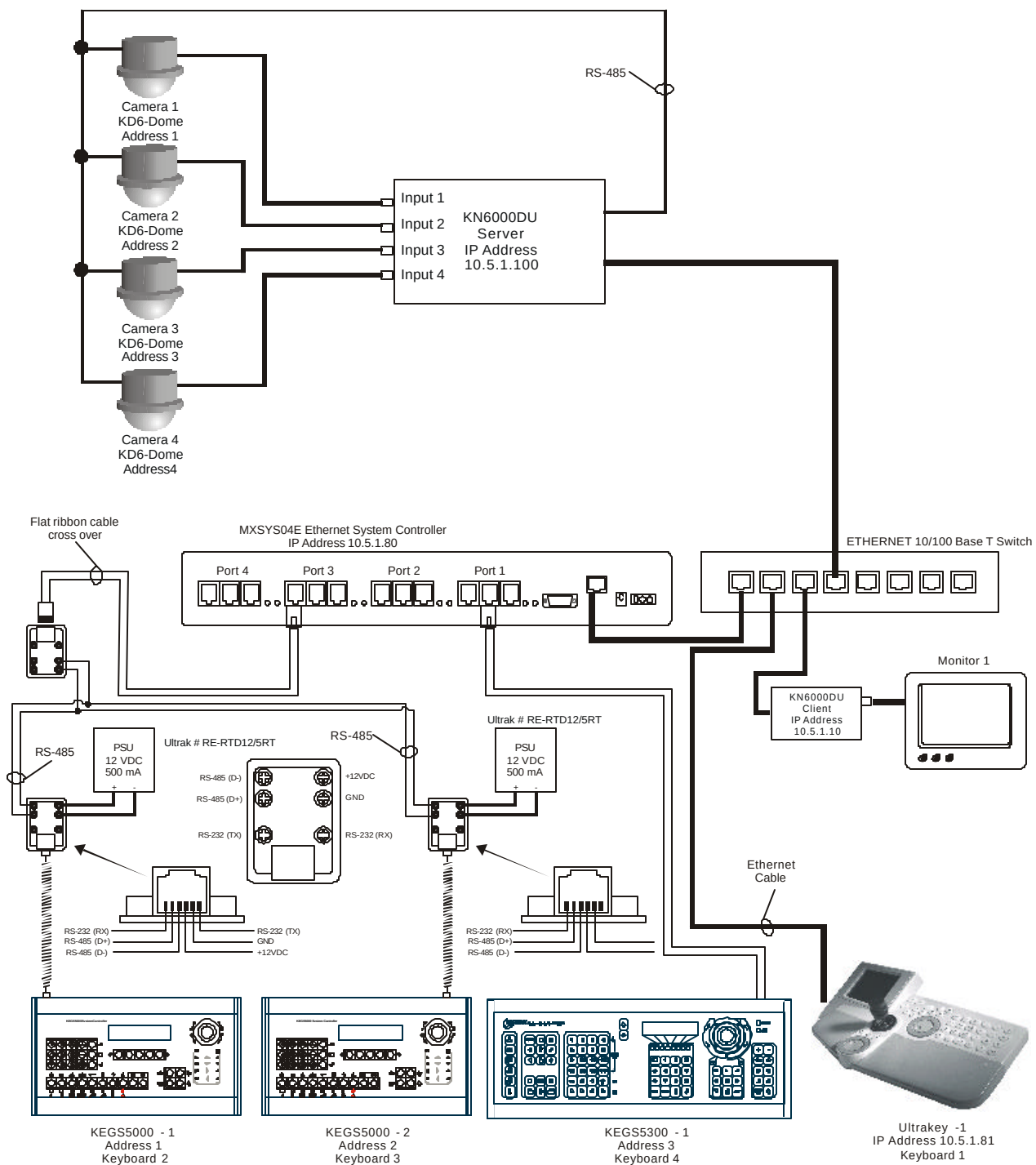


Figure 8: Default System Configuration – Digital 2

3.2 SELECTING DEFAULT CONFIGURATIONS

Selecting defaults through the setup menus.

The MXSYS04E has a number of default configurations pre-programmed. These can be recalled from the setup menu **14: Erase Settings to defaults**.

The Defaults are as in the above system diagrams. Select the required default and press Enter. Use the jogwheel to select **Yes**. Press **Enter** to accept this. The MXSYS04E will now erase all previous settings and reboot with the new configuration.

Setting defaults without the use of a keyboard

The default configurations can also be set by simply pressing the reset button a predetermined number of times.

Apply power to the MXSYS04E.

Press the reset button the number of times indicated below to erase all settings and configuration and preset the unit for the default systems below.

WARNING: ALL CONFIGURATION DATA WILL BE LOST

MX-32128 Default

After applying power press the reset button 5 times at a rate of 1 press a second.

Figure 3 Default System Configuration MX-32128 shows the MXSYS04E controlling a MX-32128 Maxpro HD Subrack. This configuration has the following features

- 128 Camera Inputs
- 128 PTZ control
- 16 Titled Monitor Outputs
- 1 Ultrakey
- 2 KEGS5000 Keyboards
- 1 KEGS5300 Keyboard
- 24 Alarm Input
- 8 Alarm Outputs
- 24 Pre configured Events
- 32 Pre configured Sequences

MX-32128 Hybrid Default

After applying power press the reset button 6 times at a rate of 1 press a second

Figure 4 Default System Configuration MX-32128 Hybrid shows the MXSYS04E controlling a MX-32128 Maxpro HD Subrack and integrating a Digital Dome with a Digital Monitor. This configuration has the following features.

- 127 Analog Camera Inputs

- 1 Digital Camera Input
- 128 PTZ control
- 16 AnalogTitled Monitor Outputs
- 1 Digital Monitor Output
- 1 Ultrakey
- 2 KEGS5000 Keyboards
- 1 KEGS5300 Keyboard
- 24 Alarm Input
- 8 Alarm Outputs
- 24 Pre configured Events
- 32 Pre configured Sequences

MX-1132 Default

After applying power press the reset button 7 times at a rate of 1 press a second

Figure 5 Default System Configuration MX-1132 shows the MXSYS04E controlling a MX-1132 Maxpro Subrack. This configuration has the following features.

- 32 Analog Camera Inputs
- 32 PTZ control
- 5 AnalogTitled Monitor Outputs
- 1 Ultrakey
- 2 KEGS5000 Keyboards
- 1 KEGS5300 Keyboard
- 16 Alarm Inputs
- 8 Alarm Outputs
- 16 Pre configured Events
- 32 Pre configured Sequences

MX-1132 Hybrid Default

After applying power press the reset button 8 times at a rate of 1 press a second

Figure 6 Default System Configuration MX-1132 Hybrid shows the MXSYS04E controlling a MX-1132 Maxpro Subrack and integrating a Digital Dome with a Digital Monitor. This configuration has the following features.

- 32 Analog Camera Inputs

- 1 Digital Camera Input
- 32 PTZ control
- 5 AnalogTitled Monitor Outputs
- 1 Digital Monitor Output
- 1 Ultrakey
- 2 KEGS5000 Keyboards
- 1 KEGS5300 Keyboard
- 16 Alarm Input
- 8 Alarm Outputs
- 16 Pre configured Events
- 8 Pre configured Sequences

Digital 1 Default

After applying power press the reset button 9 times at a rate of 1 press a second

Figure 7 Default System Configuration Digital shows the MXSYS04E controlling a Digital Dome with a Digital Monitor. This configuration has the following features.

- 1 Digital Camera Input
- 1 PTZ control
- 1 Digital Monitor Output
- 1 Ultrakey
- 2 KEGS5000 Keyboards
- 1 KEGS5300 Keyboard

Digital 2 Default

After applying power press the reset button 10 times at a rate of 1 press a second

Figure 8 Default System Configuration Digital shows the MXSYS04E controlling a KN6000DU Digital Dome with a Digital Monitor. This configuration has the following features.

- 4 Switched Digital Camera Inputs
- 4 PTZ control
- 1 Digital Monitor Output
- 1 Ultrakey
- 2 KEGS5000 Keyboards

- 1 KEGS5300 Keyboard

3.3 KD6 SETUP

KD6 Setup The KD6 Dome must be set to operate in the Maxpro mode. DIP switch S4 must be set as follows.

S4-1	ON
S4-2	OFF
S4-3	OFF
S4-4	OFF

Refer to page 4 of the Ultradome KD6 Operation and Programming manual (Ref 518584-2960) for more details.

The address of the KD6 and KD6Z dome must be set to match the number of the camera. Camera 1 – address 1, Camera 2 – address 2 etc

3.5 KEGS5000 SETUP

The KEGS5000 must have the correct firmware loaded to work with the MXSYS04E.

Check Compatibility of the KEGS5000 Firmware

Switch the power off and on again. Make a note of the version of the boot Manager then after the 5 second count down make a note of the KEGS5000 Firmware version. If the boot manager is Version 1.63 or higher then the KEGS5000 will contain a version of the firmware supporting the MXSYS04E. Proceed to **SELECTING KEGS5000 FIRMWARE**.

KEGS5000 with boot manager versions older than Version 1.63 will only contain the standalone firmware. The correct firmware will have to be loaded into the controller. Download the latest version from the Download section on the Ultrak website www.ultrak.com. Refer to the KEGS5000 owner manual for instructions on updating this firmware.

Selecting the correct KEGS5000 Firmware

KEGS5000 controllers containing a Boot Manager version of 1.63 or higher will have two versions of the controller firmware loaded.

1 KEGS5000 Slave Version 02.00.23 or higher

2- KEGS5000 standalone Version 01.03.05 or higher

To work with the MXSYS04E the keyboard must be in the Slave Mode.

Reboot the KEGS5000 by cycling the power.
Before the Boot Count down reaches zero. Press the **[1]** key
Enter the password 1994. The display displays "Run Bank" on the top line and either
"Standalone" or "Slave Mode" on the bottom line. Use the **[F1]** and **[F5]** keys to select between
the two versions and select "Slave Mode".

Press  to accept the Slave Mode. The keyboard will then display the version number, the
address and then run.

Note: The controller remembers which mode it is in and will always power up in the slave
mode

Changing the Address of the KEGS5000

The default address of the keyboard is set to 1. This is correct for the default configuration for
Keyboard 1 when connected to the MXSYS04E. Keyboards 2 –8 will need to be changed to
addresses 2 through 8

Reboot the KEGS5000 by cycling the power.
Wait for the Boot count down to complete. Press the **[F3]** key when the Version number is
displayed.

The current address is displayed. Enter the new address using the numeric keys. Press  to
save the address.

The keyboard display will go blank for a few seconds and then connect to the MXSYS04E

SECTION 4: OPERATION WITH A KEGS5000

4.1 LOGGING INTO THE SYSTEM

Booting the System After connecting powering to the MXSYS04E and the KEGS5000, the LCD display will first show the message “**Keyboard is Off Line**”.
The display then changes to “**MXSYS04E VAA Starting**”
Then changes to “**System Login Enter PIN:**”

After connecting power to the MXSYS04E and the KEGS5000, the LCD display will first show the message:

Keyboard is
Off Line

After 20 seconds the display changes to:

NOTE: The MXSYS04E takes about 60 seconds to initialize.

MXSYS04E VAA
Starting....

Logging into the System Before the system can be used, an Operator must login using a password. Enter the password for the operator logging on

System Login
Enter PIN:

Once the correct password has been entered, the Operator is logged in. The display shows which operator is logged in.

No Mon. Selected
Operator 1

Logging Out the System To change to a different operator or to logout press **[F3]** (Menu)
Press  to log out.

Sel menu option
<ent> to Log out

Default Passwords Default password for the Master is 1111
Default password for Operator 1.is 1231
Default password for Operator 2 is 1232
Default password for Operator 3 is 1233
Default password for Operator 4 is 1234

Operator Default Rights **Master** Mode has access to all menus. **Operator** Mode allows access to all menus except those in which changes to system setup are involved. The table below shows which menus and functions are available for each operator by default.

Description	Operators 1-4	Master
Save preshot (View) on KD6-Z and KD6 domes	Preshots 0-9 only	Preshots 0 99
Recall Preshot (View) on KD6-Z and KD6 domes	0-64 KDZ 0-99 KD6	0-64 KDZ 0-99 KD6
Access to the KD6 Dome menus	No	Yes
Access to the system Setup menu	No	Yes

4.2 CONTROLLING MONITORS AND CAMERAS

After logging in the system will not have an active monitor

No Mon. Selected
Operator 1

Selecting a Monitor

Before a camera can be viewed or controlled a monitor must be active

Example: Make monitor 1 the active monitor

1  or  1 

M1:Camera 1
Operator 1

Selecting a Camera

All camera switching will go to the active monitor

Example: Switch camera 2 to monitor 1

2  or  2 

M1:Camera 2
Operator 1

Note: At anytime pressing the  key will cancel the current operation and go back to the main menu

4.3 PTZ OPERATION

Use the joystick to control the camera.

View/ Preshot Save

The first 9 preshots (Views) 1-9 are available as scratchpad preshots. These can be saved and recalled by the operator. Preshots (Views) 10-99 -KD6 and 10-64 -KDZ can only be recalled by the operator and not saved.

To save a preshot or view, press (VIEW)  [number] [F5]

Example: To save view 5, press  **5** [F5]

Note: To save preshots 10-99 you have to log in as a **Master** User.

View/ Preshot Recall

To recall a preshot or view, press (VIEW)  [number] OR [number]  

Example: To recall view 5, press **[5]**  OR  **5** .

Control of the KD6 through preshots

The KD6 can be controlled by recalling preshots. The KD6 must be set for the Maxpro mode as described in the section 3.2 above. The commands available are listed below. Refer to the KD6 owner manual for more details

PreShot 80	Run PTZ Tour 1
PreShot 81	Run PTZ Tour 2
PreShot 82	Run PTZ Tour 3
PreShot 83	Program PTZ Tour 1
PreShot 84	Program PTZ Tour 2
PreShot 85	Program PTZ Tour 3
PreShot 86	Terminate PTZ Programming Mode
PreShot 87	Start VectorScan 1
PreShot 88	Start VectorScan 2
PreShot 89	Start VectorScan 3
PreShot 90	Setup the Scan and Camera
PreShot 91	Toggles the error table display
PreShot 92	Toggles auto exposure on and off. The factory default is on.
PreShot 93	Toggles backlight compensation on and off. The unit must be in auto exposure mode for backlight compensation to function.
PreShot 94	Toggles between standard operation and nightshot mode. (Model CA470S4N, CA470S4P, CA480S4N, and CA480S4P cameras only).
PreShot 95	Toggles between freeze and unfreeze video
PreShot 96	Invokes the Flashback Function
PreShot 97-99	Reserved

4.4 ACCESSING KD6 MENUS DIRECT

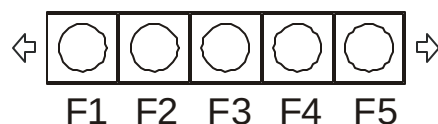
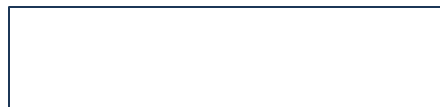


Figure 9: KD6 Function Keys

Soft Keys	ID	Icon	Usage	Description
	F1		LEFT ARROW	Sends the Left command. Used to move the cursor and position of text
	F2		NEXT	Used to select the next character
	F3		CENTER BUTTON	Used to select option shown on the center of screen. (In the figure above, no option is available at this position.)
	F4		PREVIOUS	Used to select option shown on the right side of screen. (In the figure above, it would be used to select Logout.)
	E		RIGHT ARROW	Sends the Right command. Used to move the cursor and position of text.

Accessing KD6 Menus

The KD6 menu can be accessed direct from the KEGS5000.

Press followed by the following menu appears.

Select PTZ Func:
Main Menu

Press . The KD6 menu appears on the monitor.

Sel Character:
<- A >

Navigating KD6 menus

Refer to the KD6 operation & programming manual, 518584-2960-M. for more details. All commands need to navigate the on-screen menus are available by scrolling through the Alphabet. These include Home, End, Page Up, Page Down, Insert, Delete, Backspace

- [F2] and [F4] scroll forward and back to select a character or command
- [F3] Sends the selected command or character to the KD6
- sends the lower case letter of the above character to the KD6

-  sends the Esc character to the KD6
- Numeric keys 0-9 send the corresponding number to the KD6
- [F1] and [F5] send Left and Right commands to the KD6
- + and ? send Up and Down commands to the KD6
-  sends the Enter command to the KD6
-  exits the KD6 menu on the KEGS5000

4.5 ALTERNATE CAMERA AND PTZ CALL

Alternate Camera

Each camera can have an alternate camera associated with it. Pressing the  key will route this camera to the active monitor, by default no alternate cameras are programmed.

PTZ Call

Each camera can have an associated PTZ with corresponding preshot. Press the  key to route this camera and recall the associated preshot to the active monitor, by default no alternate cameras are programmed.

4.6 SEQUENCES

The MXSYS04E supports up to 32 sequences. Each sequence can contain 32 steps, each step contains the camera number, preshot, transfer time and dwell time.

Transfer time is the time taken for the KD6 Dome to move from one preshot to another. Dwell time is the time between each step.

Running a Sequence

Press the  key, use the + and – keys to scroll through the list of sequences.

Select Sequence
Sequence 1

Default Sequences

There are 32 default sequences as listed below.

Sequence 1	8 Steps, Camera 1 – Camera 8, Dwell of 10 seconds, Preshot 1 on all Cameras
Sequence 2	8 Steps, Camera 2 – Camera 9, Dwell of 10 seconds, Preshot 1 on all Cameras
Sequence 3	8 Steps, Camera 3 – Camera 10, Dwell of 10 seconds, Preshot 1 on all Cameras
Sequence 29	8 Steps, Camera 29 – Camera 4, Dwell of 10 seconds, Preshot 1 on all Cameras
Sequence 30	8 Steps, Camera 30 – Camera 5, Dwell of 10 seconds, Preshot 1 on all Cameras
Sequence 31	8 Steps, Camera 31 – Camera 6, Dwell of 10 seconds, Preshot 1 on all Cameras
Sequence 32	8 Steps, Camera 32 – Camera 7, Dwell of 10 seconds, Preshot 1 on all Cameras

Press  to start the sequence running forward or press the **[F5]** to run the sequence forward or **[F1]** to run the sequence backwards

M1:S1 Camera 1
Operator 1

The display now changes to show the number of the sequence running in front of the camera name.

M1:S1 Camera 7
Operator 1

The Camera number will now change as the sequence runs.

Pausing a Sequence by moving the Joystick

Moving the joystick will automatically pause the sequence. The display will indicate this by displaying **Sp** in front of the camera number

M1:Sp Camera 7
Operator 1

4.6 SEQUENCES, CONTINUED

Controlling the Sequence Manually

Press the  key to enter the Sequence menu. The top lines shows the sequence number and the current step in the sequence.

```
Sequence 1:4  
Pause >>> Stop
```

Press the **[F5]** key to pause the sequence and step the sequence manually in the forward direction. The display will indicate that the sequence has been paused and display the current step in the sequence.

```
Sequence 1:4  
Run Paused Stop
```

Press **[F1]** to step to the previous step and **[F5]** to step to the next step.

Pausing and Resuming the Sequence

Press the  key to enter the Sequence menu. The **[F2]** key will toggle between pausing and running the sequence. The >>>> or <<<< show the direction the sequence is running in

```
Sequence 1:4  
Pause >>>> Stop
```

```
Sequence 1:4  
Run Paused Stop
```

Stopping a Sequence

Press the  key to enter the Sequence menu.
Press **[F4]** to stop the sequence running

```
Select Sequence:  
Sequence 1
```

Exiting the Sequence Menu

To exit the sequence menu press the Clear key



```
M1:Camera 4  
Operator 1
```

4.7 ALARMS

By default, alarm inputs are programmed for normally open operation. Closing the contact for Alarm 1 will switch Camera 1 to the Alarm Monitor. By default, this is Monitor 4. The buzzer on the keypad will activate.

Accepting an Alarm

Press the Alarm key  to accept the alarm. The buzzer will switch off and the camera will be transferred to the Alarm Accept Monitor. By default this is Monitor 1

Sequencing of Alarms

Should more than one alarm be triggered before the  key is pressed the cameras will sequence on the Alarm Monitor with a 3-second dwell time. The Alarm with the highest priority will be transferred to the Accept Monitor

Clearing an Alarm

Pressing the  key again will clear the Alarm Camera from Monitor 1 and the next alarm will be transferred to Monitor 1

SECTION 5: PROGRAMMING

5.1 NAVIGATING THE SETUP MENUS USING A KEGS5000

Note: To enter the setup mode the user must have rights to do so.
By default only the Master user can edit the menus

Enter Setup Mode

Press **[F3]** to access setup menus.

Navigating the Menus

Keys		Usage / Description
PLUS		When navigating the root menu, steps to the next menu. When editing text, inserts a space after the cursor. When in a menu, used to toggle through any options.
MINUS		When navigating the root menu, steps to the previous menu. When editing text, deletes the character above the cursor. When in a menu, used to toggle down through any options.
ENTER		When navigating the menus, enters the selected menu. When editing text, accepts the text and moves to the next menu item. When in a sub menu, accepts the current values and moves to the next menu item.
CLEAR		When in the root menu, used to exit out of the programming mode. When editing text, used to erase the value to the left of the cursor. When in a sub menu, used to erase the value to the left of the cursor. When the sub menu contains no value, used to exit the sub menu and move up one level.
RECORD		When editing a submenu, scrolls through a list of special characters. Use this key to select commas, periods and other special characters.

5.1 NAVIGATING THE SETUP MENUS USING A KEGS5000, CONTINUED

Editing Menus	Keys	Usage / Description
	[F1]	Move the cursor left.
	[F2]	Move down through character set. Used to select a character when entering name.
	[F3]	Used to enter the setup mode.and to log an operator out.
	[F4]	Move up through the character set. Used to select a character in a name or value.
	[F5]	Move the cursor right.

5.2 SETTING THE TIME AND DATE

1. Press [F3] to enter the setup menu

Sel menu option
<ent> to Log out

2. Press  until menu 12: Set system time and date is displayed. Press 

12:Set system
time and Date

3. Use the [F1] and [F5] keys to move the cursor to the digit to be changed. Enter the new value using the numeric keys. Press 

Ent date (DD/MM/
YYYY):12/03/2002

4. Use the [F1] and [F5] keys to move the cursor to the digit to be changed. Enter the new value using the numeric keys. Press . The system will go back to the Root menu.

Ent Time,24h(HH:
MM:SS):06:15:25

5. Press  to exit the setup menus.

Note: Entering an illegal value will cause the keyboard to beep and jump back to the start of editing the time date.

5.3 SETTING CAMERA TITLES

By default all 32 cameras are named Camera 1 through Camera 32. Camera names can be changed to more meaningful descriptions.

1. Press **[F3]** to enter the setup menu.

Sel menu option
<ent> to Log out

2. Press  until the menu 3: Set up Camera Properties is displayed. Press .

3: Set up Camera
Properties.

3. Press  and  to select the camera to be edited. The [001] shows the camera number followed by the current camera name. Press .

Sel. Camera:
[001]Camera 1

4. Use the **[F1]** and **[F5]** keys to move the cursor to the digit to be changed or press the  key to erase the character to the left of the cursor. Use the **[F2]** and **[F4]** keys to scroll through the alphabet. After each character is selected press the **[F5]** key to move the cursor to the right. Numbers are entered direct from the keyboard. Press  when done.

Edit Camera name
Camera 1_

Sel Video Parent
[002]MX-32128

5. Press  to exit this sub-menu and return to the Select Camera menu. Use   to select another camera to edit or press  to exit the Camera setup menu and return to the root menu.

Note: Before these changes will take effect they must first be saved. See section on Saving Changes.

5.4 SETTING UP KDZ DOMES

Changing the PTZ Type from a KD6 to a KDZ

By default all domes are configured as KD6 domes. To use the KDZ with the MXSYS04E the default must be changed from KD6 to KDZ.

Press **[F3]** to enter the setup menu. This is the root menu.

Sel menu option
<ent> to Log out

Press the  or  to select **5: Set up PTZ Cam Properties**.
Press 

5: Set up PTZ Cam
Properties

Press the  or  to select the PTZ to be changed. Press 

Select PTZ :
[001] PTZ 1

Press the  or  to select KDZ. Press 

Sel. PTZ Type
Ultrak KDZ

Enter the serial number of the KDZ. This is written on the side of the KDZ. It is also on a card supplied with the dome. The number must be 8 digits long. The A is replaced with a 0

Ent KDZ Ser #:
02354497

Press 

Press  6 times, accepting the defaults of each menu, until the message **PTZ Settings Competed** is flashed on the screen. The display changes to:

Select PTZ :
[001] PTZ 1

Programming the address of the KDZ

The KDZ dome does not have DIP switches to set the address as is the case with the KD6. Instead, the address is sent from the MXSYS04E to the KDZ to reprogram the address from the default of 1. The serial number entered above is needed for this and must be entered.

Select PTZ :
[001] PTZ 1

Press the [F5] (right arrow) key. This will send the new address to the dome. There is no indication that this has been sent. Pressing the [F]5 key again will simply send the information another time
NOTE: The KDZ dome must be connected to the Port 4

Select PTZ :
[001] PTZ 1

Press  to get to the root menu. Save settings as described below.

Sel menu option,
<ent> to log out

5.5 SAVING CHANGES

Before any changes to the setup menus will take effect they must first be saved.

From the root menu use the  and  to select menu 16: Save Settings to NV Memory. Press 

16 Save Settings
to NV Memory

Press the  to change the No to Yes.

Save Settings
No

Press  to save the settings

Save Settings
Yes

The system will reboot if necessary or Save settings and return to the Root menu. Press  to exit the setup menus.

Saving Settings
System will reboot

5.6 PROGRAMMING SEQUENCES

1. Press **[F3]** (MENU) to enter the setup mode.

Sel menu option
<ent>to Log out

2. Press the  or  until menu 10 Set Sequences and Guard Tours selected.

10:Set Sequences
and Guard Tours

3. Press  to enter this menu.

Sel Sequence:
1:Sequence 1

5.6 PROGRAMMING SEQUENCES, CONTINUED

4. Press  or  to select the sequence to edit.

Sel Sequence:
2:Sequence 2

5. Press  to edit this sequence.
Edit the sequence name if required. Press .

Edit Seq. Name
Sequence 2

6. Press  to accept the **Sequence** Type.

Sel Seq. Type:
Scan Sequence

7. Press  to accept the SALVO as NONE.

Ent Salvo Slaves
NONE

8. Enter the Source group of the Sequence.
(Must be the same source group as the Camera.)
Press .

Ent Seq. Source
Grp:1

9. Press  or  to select the step in the sequence
to be edited. Press  to edit this step

Select Step to Edit
[1]Camera 9

10. Press  or  to select the camera for this step.

Sel Sequence Cam
Camera 9

11. Press  to edit the values for this step.
PS = Preshot,
Xfer = Transfer time,
Dwl = Dwell Time

PS,Xfer,Dwl,Type
001,000,005,N

In this example, Preshot =1, Transfer time = 0, Dwell Time = 10, and Type = Normal

12. Use the **[F1]** or **[F4]** key to move the cursor to the value to be edited.
Enter a value using the numeric keys. Use the  (RECORD) key to select
the comma (,) between the values and to select the last character **N**, **S**, or **E**.

The last character tells the system how to interpret this step.

N = normal step

S = this step must be skipped over

E = this step is the last step in the sequence

SECTION 6 UPDATING FIRMWARE

6.1 DOWNLOADING NEW FIRMWARE TO THE KEGS5000

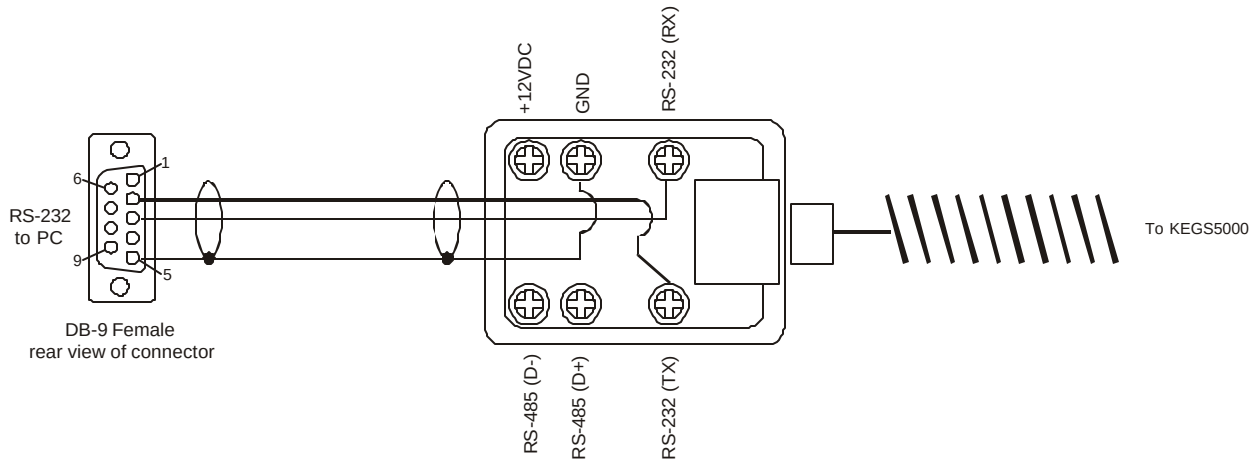
The KEGS5000 can have new firmware downloaded through the RS-232 port. This is done through a simple windows program called Ultrak Code Server.

To download the latest version of the Code Server visit the download section on the Ultrak Webster (www.ultrak.com) or go directly to http://www.ultrak.com/download_software.shtm. Click on CCTV and follow the instructions to download the Ultrak Code Server.

To download the latest version of the KEGS5000 firmware, click the latest version and select "Run from Server." This will open winzip and install the firmware to the default directory (C:\Program Files\Ultrak Code Server\CCTV\KEGS5000). If Code Server was installed to a different drive, select the drive prior to installing.

The latest version will be saved to your computer.

1. Connect the KEGS5000 to COM1 or COM2 of your PC.
(Refer to the diagrams below for correct download cable connections.)



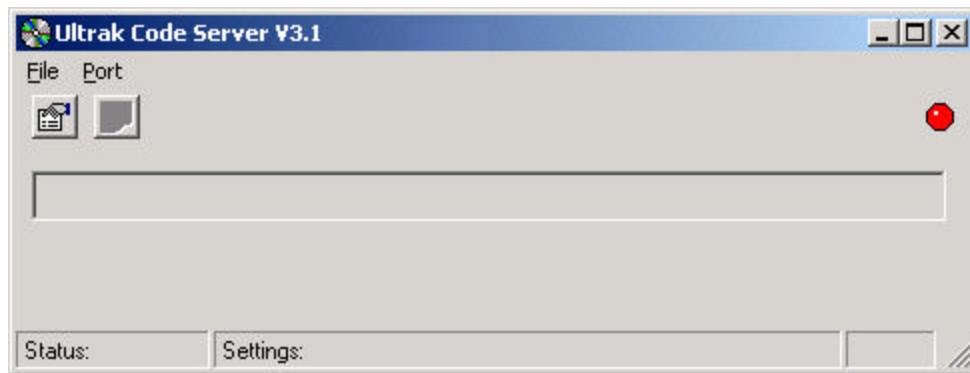
RS-232 Download cable connections

2. Disconnect power from the KEGS5000. Reconnect the power and, before the timer reaches zero, press **1** on the controller. This will put the controller into the download mode.
3. Enter the **Master** password.
(Assuming it has not been changed from the default, enter 1994.)

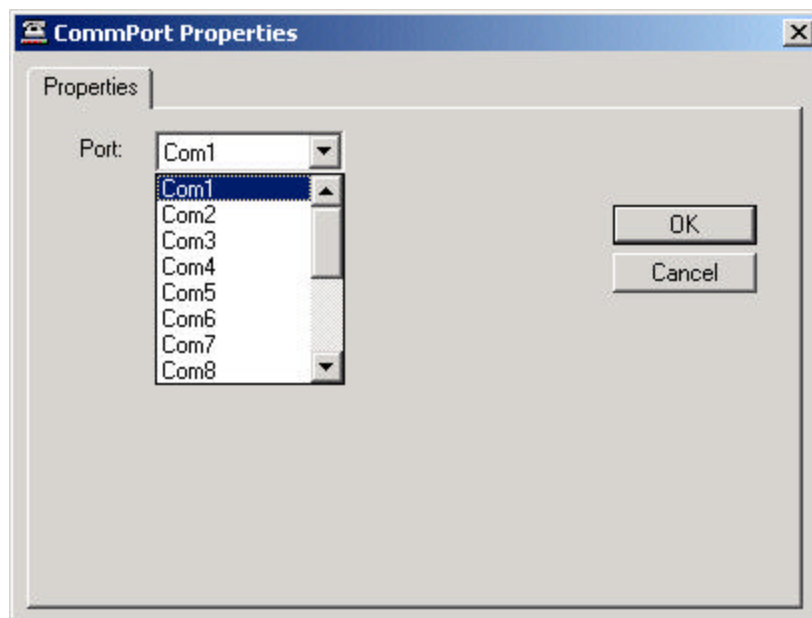
4. Press the ← or → arrow keys until the LCD display shows **Download Firmware**.

6.1 DOWNLOADING NEW FIRMWARE TO THE KEGS5000, CONTINUED

5. Press ↵. The controller will clear the memory and, when ready to download, will display the message **Begin Download.** The KEGS5000 is now waiting for data from the PC.
6. From the START bar on your PC, select Programs→Ultrak→Ultrak Code Server. The following window appears.



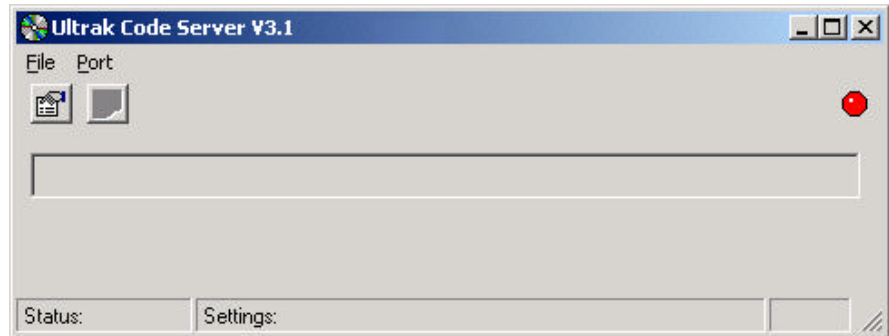
7. The Port Properties icon  allows you to select which serial port to use. Clicking on this opens the CommPort Properties window:



Select the serial port the download adapter is connected to and click OK.

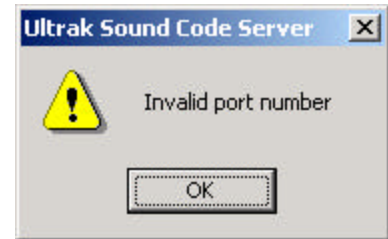
6.1 DOWNLOADING NEW FIRMWARE TO THE KEGS5000, CONTINUED

8. Click on the red dot to enable the port.

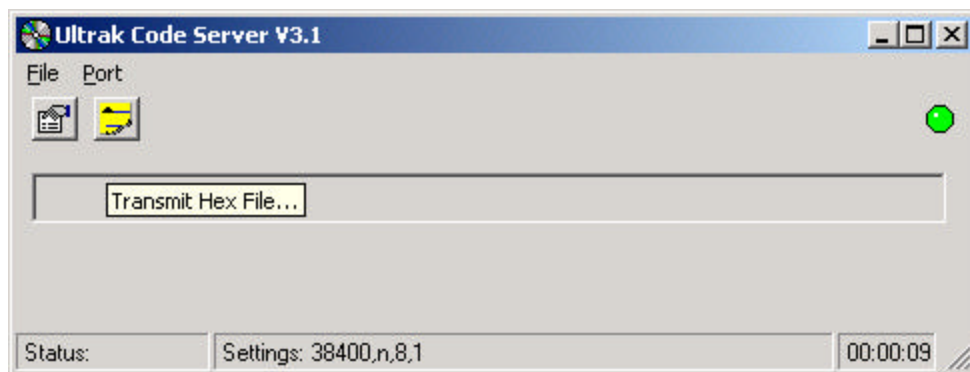


If the port is unavailable, you will get an “Invalid port number” error message.

This is because the port is being used by another device, usually the mouse or a modem. Click on the properties icon and select a different port.

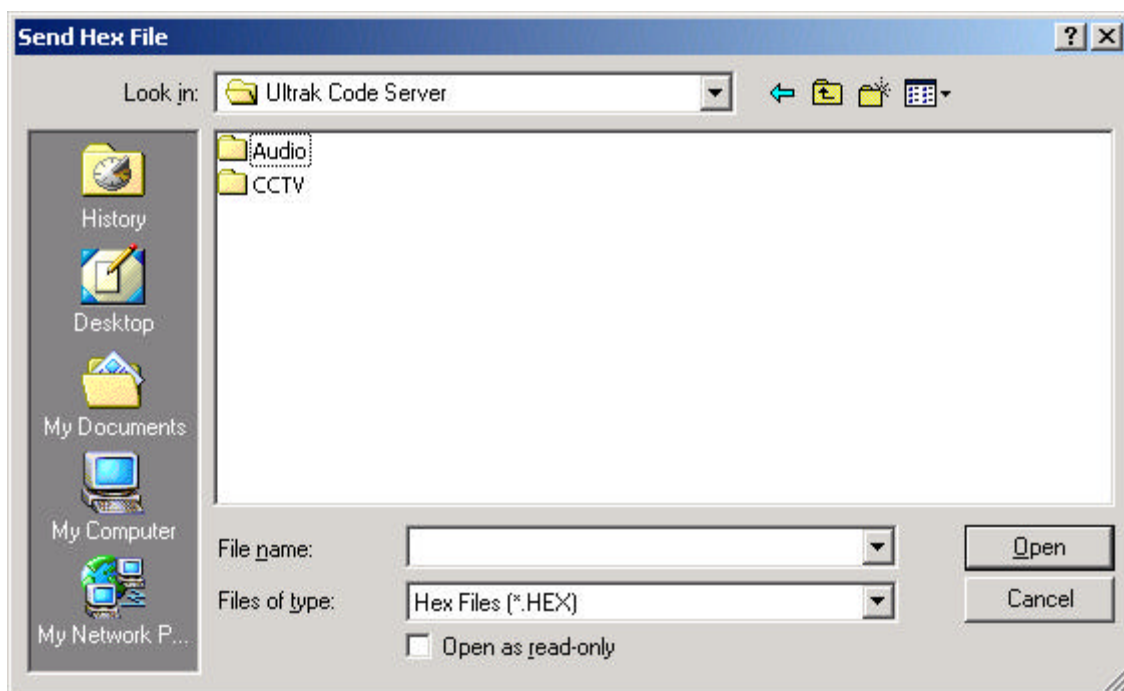


9. If the port is available the red dot changes to green and the Transmit Hex file icon  becomes visible.

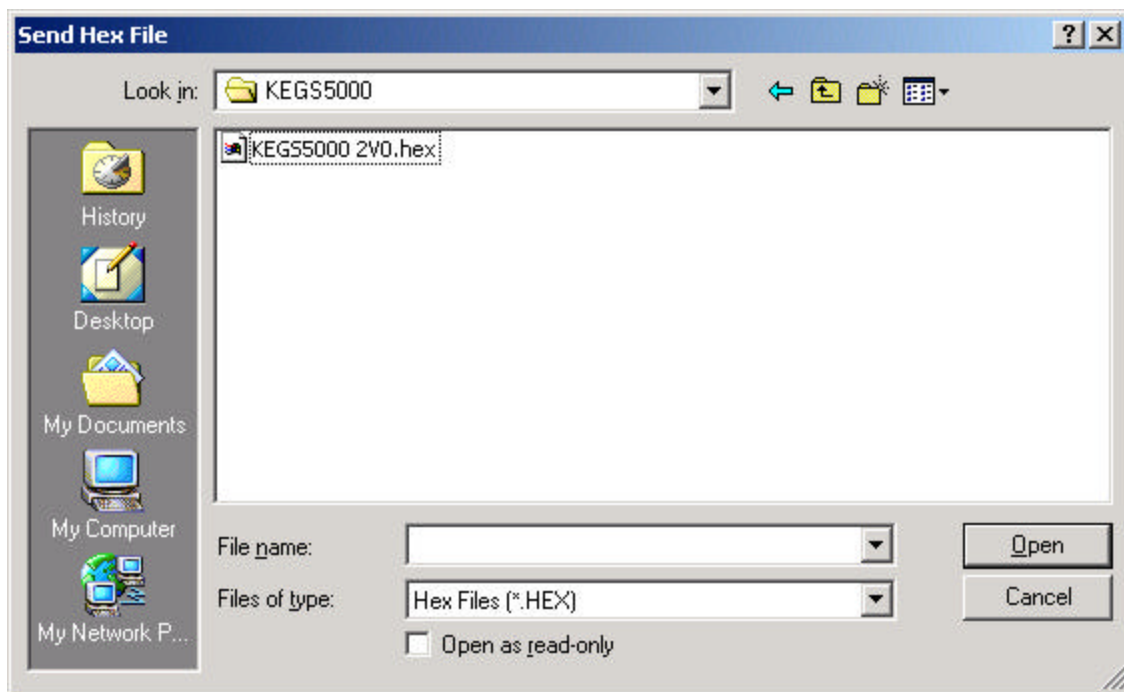


6.1 DOWNLOADING NEW FIRMWARE TO THE KEGS5000, CONTINUED

10. Click on the Transmit Hex File icon  to bring up the Send Hex File window.

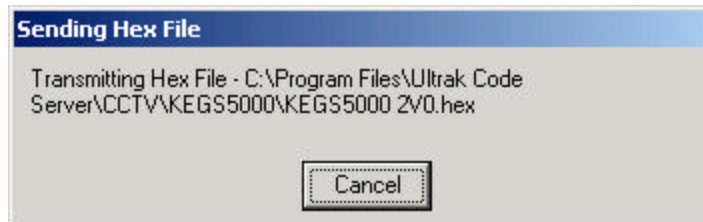


11. Double click the CCTV folder and then the KEGS5000 folder.



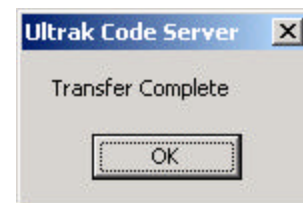
6.1 DOWNLOADING NEW FIRMWARE TO THE KEGS5000, CONTINUED

12. Select the latest version (in this example, KEGS5000 2V0.hex) and click OPEN. The Sending Hex File window displays, indicating the file being transmitted and the progress of the download. **"Download Busy"** appears on the KEGS5000 LCD.



13. When the download is complete, a **Transfer Complete** window will display and the KEGS5000 will restart with the new version of the software.

Click OK to close the Ultrak Code Server.



6.2 DOWNLOADING NEW FIRMWARE TO THE MXSYS04E

Download files from website

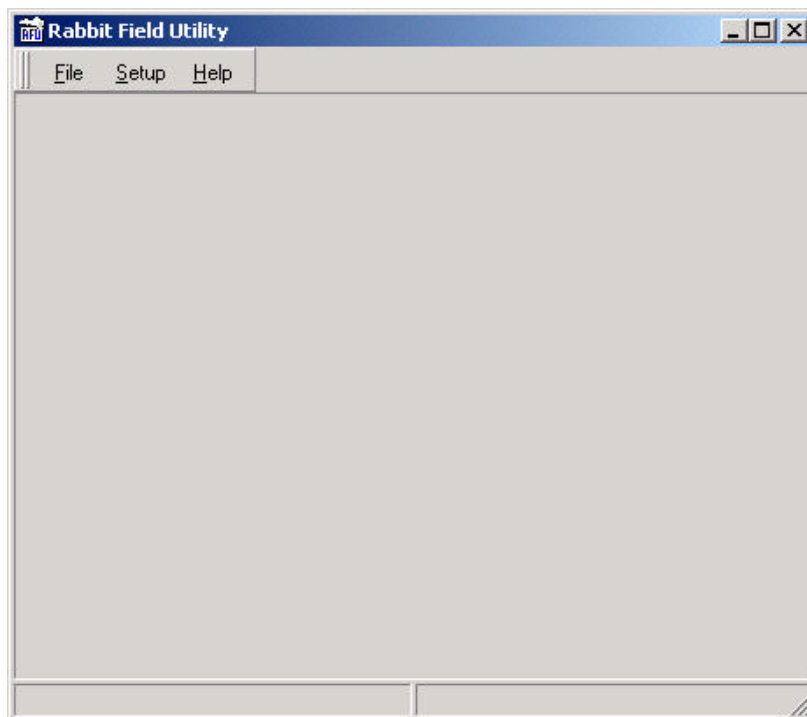
The MXSYS04E can have new firmware downloaded through the RS-232 port. This is done through a simple windows program called Ultrak Code Server.

To download the latest version of the RFU DOWNLOAD PROGRAM visit the download section on the Ultrak website (www.ultrak.com) or go directly to http://www.ultrak.com/download_software.shtml. Click on CCTV and follow the instructions to download the RFU PROGRAM.

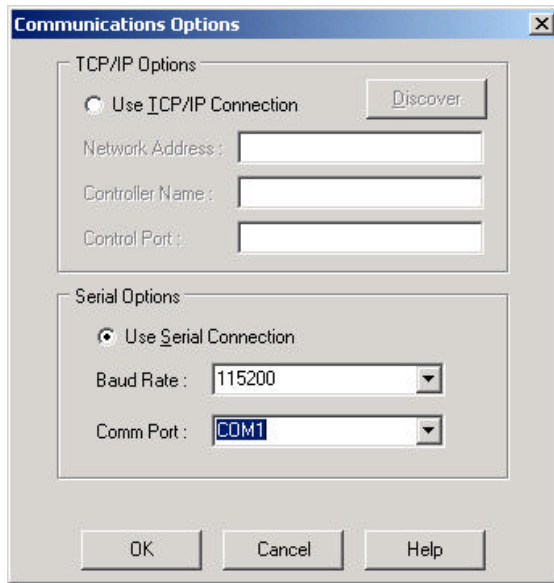
To download the latest version of the MXSYS04E firmware, Right click the latest version and save this to the same directory as the RFU program on your PC.

SETTING UP THE RFU DOWNLOAD PROGRAM

Double click the RFU.exe file, the following window opens

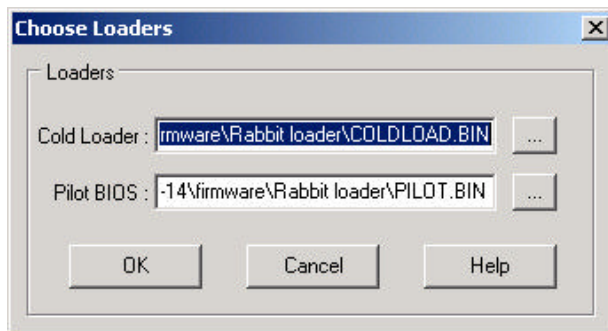


Click Setup then Communications select the Com port you will be using to download the firmware and make sure the rest of the settings are below.



Click OK

Click Setup then Boot Strap Loaders. The following window opens.



Click the button with the three dots next to Cold Loader and browse to the folder where you copied the MXSYS04E files. Click on the COLDLOAD.BIN file and click OK

Repeat the same for the Pilot BIOS

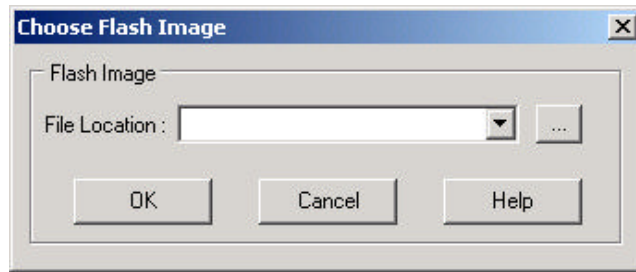
Click OK when done.

The above procedure only needs to be done once

DOWNLOAD ING A MXSYS04E BIN FILE TO THE MXSYS04E or MXSYS04E

Connect the RS-232 cable supplied with the MXSYS04E or MXSYS04E from the Download port to the Com port on the PC

Double click the RFU.exe file to open the download utility. Click on File then Load Flash Image. The following window opens.



Click on the button with the three dots to browse to the folder which contains the downloaded files. Select the version of the file to be downloaded, (SysX_XXX.BIN) click OK and OK again to start the download. A window will open showing the progress of the download.

When complete unplug the cable from the rear of the unit. Press the reset button.

NOTE: The MXSYS04E will not run with the RS-232 cable connected to the PC. This places the unit in a download mode.

SECTION 7: TROUBLESHOOTING AND MAINTENANCE

7.1 TROUBLESHOOTING

If problems occur at the initial installation phase, verify the unit is installed correctly and the connectors are seated fully into the interconnecting equipment. Because this unit is just one part of an overall system, it may be necessary to verify that the other equipment types have been installed and are operating correctly before assuming the problem exists with the MXSYS04E controller.

If problems still exist after verifying correct installation and the problem has been isolated to the controller, then it must be removed for servicing. THERE ARE NO USER-SERVICEABLE PARTS. REFER SERVICING TO QUALIFIED PERSONNEL ONLY.

7.2 PREVENTIVE MAINTENANCE

Use of preventive maintenance allows detection and correction of minor faults before they become serious enough to cause equipment failure. As a result, major repairs can be avoided, and the equipment can be maintained in an operable condition with a minimum of maintenance.

Periodically perform the following.

1. Inspect all interface connecting cabling for deterioration or other damage.
2. Clean the front panel with a soft cloth using any mild commercial cleaner.

NOTES:

SECTION 7: SPECIFICATIONS

Input Voltage	9-12V dc
Power	6W
Control Ports	RJ-11 connector with 1xRS-485 and 1xRS-232 port
Communication Speed	RS-232: 1200 baud RS-485: 9600 baud
Operating Distances	4000 ft (219 m) with RS-485 and 32 devices 50 ft (12.7m) maximum with RS-232
Ambient Temperature	32°F to 122°F (0°C to 50°C)
Ambient Humidity	0~95% (non-condensing)
Construction	Extruded aluminum
Finish	Light gray powder coating
Dimensions	13W x 3.75H x 6.875D inches (330W x 95H x 175D mm)
Weight	3 lbs. (1.36kg)

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